Identification System Training Kit Of Normal And Abnormal Heart Sound For Courses Of Intelligent Systems And Digital Signal Processing

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ABSTRACT

Teaching materials in learning are very important for students to achieve success. The selection of appropriate learning resources can improve student learning achievement. The properties can arouse students' interest in learning and make it easier for lecturers to explain the concept of the material delivered.

At this time, the implementation of the Intelligent System and Digital Signal Processing Course in the Department of Electronics and Informatics Education is utilizing software only to develop artificial neural network systems and digital signal processing, but it has not implemented into hardware yet. Based on these conditions, the concept of the two subjects is difficult to understand, and students have difficulty imagining the application of the two subjects. The absence of teaching aids in the form of trainers also makes it difficult for lecturers to convey clearer concepts to students. Therefore at this research, it is developed "Identification System Training Kit Of Normal And Abnormal Heart Sound For Courses Of Intelligent Systems And Digital Signal Processing." The trainer is expected to generate high-level thinking skills (Higher Order Thinking Skills/HOTs), which includes the ability to think critically, analytically, logically, reflective, metacognitive, creative, and the ability to cooperate.

The objectives of this research are (1) Producing the Identification System Training Kit Of Normal And Abnormal Heart Sound For Courses Of Intelligent Systems And Digital Signal Processing. (2) Knowing the performance of the trainer kit. The method used in the research is the R&D procedure carried out to develop product prototypes or new product engineering. Detail the phases in the development method include (a) Potential and problems, (b) Data Collection, (c) Product Design, (d) Design Validation, (e) Design Revision, (f) Product Trial, (g) Product Revision, (h) Test of Use, (i) Product Revision.

"Identification System Training Kit Of Normal And Abnormal Heart Sound For Courses Of Intelligent Systems And Digital Signal Processing" has been developed well. It has been tested in 2 institutions, UPSI Malaysia and UNY Indonesia. Validation was carried out by experts (lecturers) and users (students). The validation results show that the system's eligibility reaches 97%.

Kata Kunci: *Training Kit, Heart Sound, Artificial Neural Network, Digital Signal Processing*